IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Machida et al.	§	
Serial No.: National Phase of PCT/JP99/03824	§	International Filing Date: 15 July 1999
Filed: Herewith	§	Priority Date: 22 July 1998
For: LABELED COMPLEX, PROCESS FOR PRODUCING SAME AND PROCESS FOR UTILIZING SAME	§	

Attention: DO/EO/US
Commissioner For Patents
Washington, D.C. 20231

REDLINE VERSION FOR PRELIMINARY AMENDMENT

IN THE SPECIFICATION:

Page 15, paragraph 3:

A fifteenth aspect of the invention is that in the [thirteenth] twelfth aspect of the invention, the step for generating the target receptors has a step wherein, by using a first primer for reproduction of a single strand nucleic acid that is bonded with the labeled substances and that has a predetermined base sequence, and a second primer for reproduction of the other single strand nucleic acid to be bonded with the carrier, a double strand nucleic acid is synthesized and amplified. With the [sixteenth] fifteenth aspect of the invention, a large amount of labeled complex can be produced easily and rapidly depending on the target receptors.

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In FIG. 1 (a), a case where the molar ratio of the fluorescent substance 13 and the fluorescent substance 15 is, for example, 4 to 1 as a whole is illustrated with five target receptors 12 for simplicity of description. On the other hand, the labeled composite particle 16 shown in FIG. 1 (b) shows target receptors 17 which have DNA fragments (broken lines) with a different base sequence from the DNA fragment in the aforementioned target receptors 12. Here, the same symbols as in FIG. 1 (a) denote the same things. In the present embodiment, since a magnetic particle 11 is used for a micro particle, not only are the target receptors 12 held altogether, but also the labeled composite particles [11, 16] 10, 16 can be remotely controlled by a magnetic field. In particular, by using a pipette device that is provided with a magnetic device, various operations can be automated.

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As shown in FIG. 8 (a), for example, two types of labeled composite particles 46, 47 are prepared. The target receptors of the labeled composite particle 46 and the labeled composite particle 47 are different, and are formed by DNA fragments with different base sequences. Two types of fluorescent substances 13(○), 15 (△) are bonded with the target receptors in a

molar ratio of 4 to 1 for the labeled composite particle 46, and in a molar ratio of 1 to 4 for the labeled composite particle 47. In FIG. 8 (b), a DNA binding protein 48, being a target labeled by a fluorescent substance [48]49 is mixed into the suspension within which the two types of labeled composite particles 46, 47 are mixed.

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It is assumed, in FIG. 8 (c), that the DNA binding protein 48 is bonded with the labeled composite particle 46. In FIG. 8 (d), by measuring the fluorescence spectrum of the fluorescent substance [48]49 that is labeled by the DNA binding protein 48, the labeled composite particle 46 by which the DNA binding protein 48 is captured is selected. Then, after the labeled protein 48 is removed in FIG. 8 (e), the labeled composite particle 46 is discriminated by fluorescence.

IN THE CLAIMS:

22. (Amended) A process for utilizing a labeled complex according to [either one of] claim 20 [and claim 22], wherein said selection step has; a step for suspending said labeled complex group, a step for contacting the suspension in which the labeled complex group is suspended, and selective substances for selecting the object labeled complexes, and a step for extracting or separating the labeled complexes bonded with the selective substances.

31. (Amended) A process for utilizing a labeled complex according to [either one of] claim 21, wherein in the case where said discrimination substances or selective substances are fluorescent substances or mineral phosphates, in the step for passing said suspended liquid through said narrow tube, an excitation light for exciting the substances is emitted toward said narrow tube.

31. (Amended) A process for utilizing a labeled complex according to claim 21, wherein in the case where said discrimination substances or selective substances are fluorescent substances or mineral phosphates, in the step for passing said suspended liquid through said narrow tube, an excitation light for exciting the substances is emitted toward said narrow tube.

Art Sub By

REMARKS

The specification and Claims 22 and 31 have been amended to correct minor errors.

Should the Examiner have any questions or comments regarding the amendments, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,

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Dated: 1/18/01

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